

## **Abstract**

### **Illumination unit and method for the operation thereof**

An illumination unit comprising

- 5                               - a high-power light source (1),
- a first optical element (12) for focusing the light emitted from the high-power light source (1),
- a photometric head (8) for illuminating an object (3) in a predefinable manner,
- 10                           - an optical waveguide (2) for transmitting the emitted and focused light to the photometric head (8),
- a displacement unit (6) for varying the axial distance between the high-power light source (1) with the first optical element (12) and the inlet of the optical waveguide,
- 15                           wherein the cross-sectional surface of the focal point is at least twice as large as the cross-sectional surface of the optical waveguide (2) on the light inlet side, and the intensity of the light coupled into the optical waveguide (2) can be varied by axial displacement of the high-power light source (1).
- 20   Figure